



ROBERT H. SMITH
SCHOOL OF BUSINESS

Financial Management

Dividend Policy

1

DIVIDEND POLICY

– QUESTIONS THIS LECTURE EXAMINES:

1. Types and mechanics of dividends.
2. Mechanics of a dividend payment.
3. What is the Impact and Relevance of Dividends?
 - 3.1 When are dividends irrelevant?
 - 3.2 Homemade Leverage and Arbitrage
 - 3.3 What's the affect of taxes on dividends?
 - Personal taxes
 - Corporate taxes
4. What is the relationship between dividends and signaling value?
5. Conclusions on dividend policy: investments and taxes

1. The Different Types of Dividends

Dividend refers to cash distributions of earnings

1. Cash dividends

These are the most common and are usually paid four times a year.

2. Stock dividends

– Stock dividends are not true dividends in that a distribution of stock does not affect the value of the firm or the wealth of the shareholder. These dividends are paid out of Treasury stock.

3. Stock split

– Similar to a stock dividend. The NYSE requires share distributions of less than 25% to be treated as stock dividends.

4. Share repurchases

– The company repurchases the stock. Shareholders pay tax only on the capital gains portion.
– Same effect as a regular dividend as cash LEAVES the corporation.

Dividend Policy - 2

2. Method of Dividend Payments

– A dividend is distributed to shareholders of record on a specific date. When a dividend has been declared, it becomes a debt of the firm and cannot be rescinded.

<u>Thurs</u>	<u>Mon</u>	<u>Fri</u>	<u>Mon</u>
1/15	1/26	1/30	2/16
Declaration date	Ex-dividend date	Record date	Payment date

1. **Declaration date:** The board of directors declares a payment of dividends.
2. **Ex-dividend date:** A share of stock goes ex-dividend on the date the seller is entitled to keep the dividend; under NYSE rules, shares are traded ex-dividend on and after the fourth business day before the **record date**. (Buy before this date if you want the dividend).
3. **Payment date:** The dividend checks are mailed to shareholders of record.

Dividend Policy - 3

- It is important to isolate who receives the dividend due to the stock price reaction following the payment. The stock should fall by the amount of the dividend with no taxes.

- Before ex date: Dividend = 0 Price = P + D
- After ex date: Dividend = D Price = P

– TAX EFFECTS:

Consider a marginal investor in the 25% tax bracket. How much will this investor pay for the stock (and subsequently how much will the price fall) if I sell the stock to this investor and she gets the dividend and has to pay the tax on the dividend?

3. Are Dividends Irrelevant?

3.1 An Illustration That Dividend Policy is Irrelevant

Suppose we have an all equity firm.

- The current financial manager knows at the present date ($t=0$) that the firm will dissolve in 2 years ($t=2$).
- At $t=0$ the manager is able to forecast cash flows with perfect certainty so she knows that each year will generate \$10,000.
- The risk of the firm is such that the return on equity is 10% and there are currently 100 shares outstanding.
- The firm currently has no positive NPV projects available.

How much can we pay in dividends???

Alternative 1:

Set dividends equal to current cash flow

- In this case, the aggregate dividend is \$10,000 per period, (per share = \$100), so the value of the firm is:

$$V_0 = \frac{10000}{1+r} + \frac{10000}{(1+r)^2}$$
$$= \$17,355.37 \text{ for } r = .1$$

And the value per share is:

$$P = \frac{100}{1+r} + \frac{100}{(1+r)^2}$$
$$= \$173.55 \text{ for } r = .1$$

Dividend Policy - 6

Alternative 2:

Set initial dividend greater than cash flow

- If the firm decides to issue a \$110 per share dividend then the total amount of cash need is \$11,000.
- Since this exceeds the cash on hand for the year, the funds must be raised by selling stocks or bonds.
- Suppose the firm issues \$1000 of stock to finance the dividend.
- The new stockholder require a 10% rate of return such that there payoff at t=2 will be \$1,100.

	<u>Date 1</u>	<u>Date 2</u>
Aggregate dividends to old SH	\$11000	\$ 8900
Dividends per share	110	89

How many shares did the new investors get for their \$1,000? (\$1,100/\$89)

Dividend Policy - 7

Implications of this example:

- The time patterns of dividends should not matter as long as the investor is fairly compensated through the return on equity.
- The assumptions required for the results to hold include:
 1. Markets are perfect and frictionless.
 2. Future investments and cash flows are known with perfect certainty.
 3. The investment policy is fixed and is not affected by changes in dividend policy.
 4. No Taxes

Dividend Policy - 8

3.2 Homemade Dividends and Arbitrage

- The argument is that shareholders will not pay more for a firm if the shareholder can either replicate or undo the dividend decision.
- For example, assume that the firm will pay \$110 at $t=1$ and \$89 at $t=2$. If Investor A wants \$100 in both $t=1$ and $t=2$,
- Can she undo the firm's decision to achieve her desired consumption?
 - ==> She can simply reinvest the extra \$10 in the company's stock and receive \$89 plus \$11 at the end of $t=2$.
- Alternatively, if the firm decides to pay \$100 in both $t=1$ and $t=2$ and Investor B desires consumption of \$110 in $t=1$ and \$89 in $t=2$,
- ==> She can simply sell \$10 worth of shares at $t=1$ and therefore, be out \$11 worth of dividends at $t=2$.

Dividend Policy - 9

3.2 Effect of Taxes

- Do TAXES matter for dividends? Our previous examples showed that dividends do not matter.
- Although individual taxes on capital gains and ordinary income are equal, effectively, capital gains are taxed at a lower rate since they are deferrable. In this section, we will ignore corporate taxes.
- If taxes matter, then it may be that firms which pay dividends will have a lower value to shareholders than firms which retain them for investment.

Dividend Policy - 10

Example:

- Suppose all shareholders are in the 28% tax bracket and have a choice between investing in Firm G which pays no dividend or Firm D that does pay a dividend.
- Firm G's stock is currently \$100 and has a 20% return on equity. Assume that the investor does not sell the shares - and the capital gain is untaxed. Therefore, the value of the share one year from now should be \$120.
- On the other hand, Firm D pays a \$20 dividend.

What's the Value of Each of These Shares?

Dividend Policy - 11

SOLUTION

- If markets are efficient, then firms that are equally risky must have the same after-tax value.
- Let r_e = required return on equity.
 - Tg = capital gain tax rate = 0%
 - Td = Tax rate on dividend income = 28%
 - (Tc = Corporate tax rate = 0%, not used in this ex.)

Assume that firm D's stock will be \$100 next year after the \$20 dividend is paid.

$$P_0 = \frac{100 + 20(1 - .28)}{1.20}$$
$$= \$95.33$$

The difference between the price of Firm D's stock and Firm G's stock is simply the present value of the taxes that must be paid by the investor.

Dividend Policy - 12

Corporate Taxes

- Previously, we ignored the effect of corporate taxation on dividend policy. For illustrative purposes, suppose a firm has come extra cash after all positive NPV projects have been undertaken.

EXAMPLE: The Regional Electric Company has \$1000 of extra cash (after tax).

- It can retain the cash and invest it in T-bills yielding 10% or it can pay the cash to shareholders as a dividend.
- Shareholders can also put the money in T-bills with the same yield.
- The corporate tax rate is 34% and the individual rate is 28%.
- What is the amount of cash that investors will have after 5 years under each of the following scenarios:

Options:

- a. Pay dividends
- b. Retain the cash for investment in the firm

Dividend Policy - 13

Solution:

a. Pay dividends

Shareholders receive in 5 years:

$$\begin{aligned} \$1000 (1 - .28) (1 + .072)^5 &= \$1019.30 \\ & \text{(.072 is individual's after tax return)} \end{aligned}$$

b. Retain the cash for investment in the firm

The company retains the cash and invests in T-bills and pays out the proceeds 5 years from now. (Individuals pay the taxes at the end)

Shareholders receive in 5 years:

$$\begin{aligned} \$1000 (1 + .066)^5 (1 - .28) &= \$991.188 \\ & \text{(.066 is corporation's after tax return)} \end{aligned}$$

Dividend Policy - 14

3.4 Conclusions on Taxes:

- Pay low (no) dividends if corporate rate is less than the individual rate.
- Pay high dividends (higher tax benefit) when the individual rate is less than the corporate rate.
- In addition, corporations (as holders of stock) are able to exclude 80% of the dividend income they receive from holding stock.

(In this case the holder and payee are both corporations.

Treat the holder like an “individual”)

Dividend Policy - 15

3.4.2 Differential Investment return?

- Let r_i = (risk adjusted) return investors can earn with dividend.
- r_c = (risk adjusted) return corporations can earn with dividend.
- T_i = individuals tax rate
- T_c = Corporations tax rate

General Rule for Dividend Payment:

$$(1 - T_i)(r_i) \begin{array}{l} > \\ = \\ < \end{array} \begin{array}{l} \text{pay dividends} \\ (1 - T_c)(r_c) \\ \text{retain earnings} \end{array}$$

- Holding the return on assets constant, a firm that has a higher tax rate than the individual will be better off paying out dividends rather than retaining them.
- Similarly, if the tax rates are equivalent and the firm has a higher rate of return on investment, the value of the dividend will increase if the firm retains all extra cash.

Share Repurchases

- Method of paying out earnings that is tax-advantaged.
- However IRS may become “interested” if it appears repurchases are to avoid taxes on cash dividends.
- Investor only pays capital gains tax on shares IF sold back to firm.

Share Repurchases & Signaling

- The prevalence of dividends may be explained by their ability to convey managerial information to the market.
- Therefore, signaling by managers can be accomplished either through dividends or share repurchases.
- Dividends signal that the firm is profitable and can maintain the level of dividends.
- Share repurchases can signal that insiders believe firm is undervalued. (However, investors may believe firm has no great projects.)
- What about false signaling?

Summary of dividend payout

1. There may be investors, such as retired individuals, who prefer current income to growth in stock value. However, this should not matter since investors could sell a portion of the low dividend paying stocks to supplement cash flow.
 - In the real world, however, the sale of securities involves transactions costs that may outweigh the differential in payout.
 - Therefore, some individuals are better off holding high dividend paying securities.
2. After accepting all positive NPV projects, firms should payout dividends out of extra cash if the corporate tax rate $>$ the individual tax rate.
 - DEBATE: Therefore, the debate on which dividend policy increases the value of the firm is still unresolved from a tax viewpoint.
 - Only if there exists an unsatisfied tax clientele may the firm increase its value in the short run.